

Petrochemical Application



WINSONDA OIL FILTRATION SOLUTIONS

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CUSTOMER

SECCO is a joint venture petrochemical company invested by SINOPEC &BP in Shanghai, China manufactures ethylene, propylene, polyethylene, polypropylene, styrene, polystyrene, acrylonitrile, butadiene, benzene, toluene etc.

Units Basic Info

- Units: Mitsubishi compressor
- Reservoir: 20000L (Turbine oil)
- Oil years: 3 years

PROBLEM

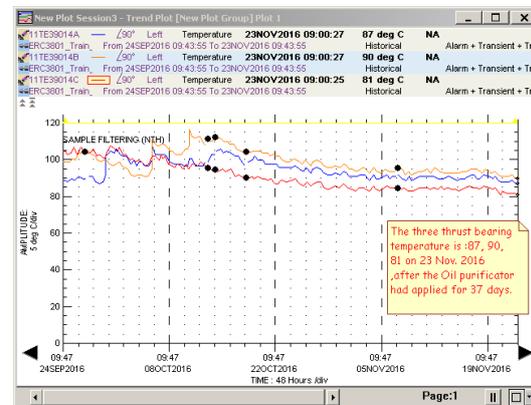
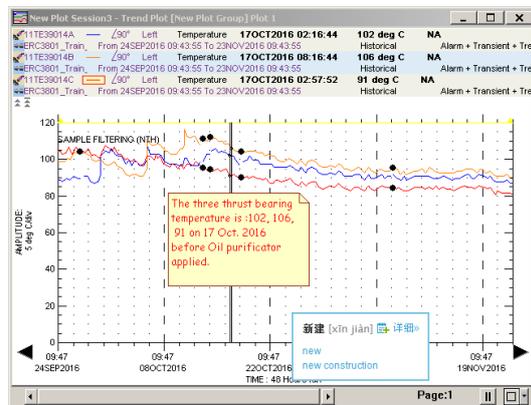
The aging lube oil was heavily degraded and particle contaminants and varnish already formed in the lubrication system. Due to the increased friction, engineers highly concerned about the elevating temperature (106°C) of thrust bearings. Also, they found a darkened varnish stuck on the surface of thrust bearings (See picture 1) in last inspection during scheduled outage. To avoid costly unscheduled trips, SECCO decided to solve it with reliable solutions.

SOLUTION

Winsonda's varnish removal unit has been introduced and installed to the centralized reservoir on 17th Oct. 2016 for 11C3801/11CST3901/11CST3601.

RESULT

With 37 days operation, the temperature of thrust bearings dropped to safety level. The independent test was performed by SGS and oil analysis report indicated an excellent value varnish potential $\Delta E=1.2$. Customer was pleased to have such result and placed repeated order for another three units.



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CUSTOMER

CNOOC (SHENZHEN), AN OFFSHORE OIL PLATFORM(#32-2)

Units Basic Info

- Units: Solar T60
- Oil Type: Caltex Regal R&O 46
- Reservoir: 1800L



PROBLEM

The oil analysis report showed that the in-service oil was highly contaminated by particles and serious varnish formation. The pressure of EHC system was unstable during operation. To prevent key components damage caused by lubrication failure, engineer come to us for a filtration solution.



SOLUTION

Winsonda's varnish removal unit(WVD-II) has been introduced and installed to the reservoir in 7th Dec. 2016 for continuous filtration.

RESULT

After 7 days filtration, the MPC value ΔE dropped from 31.5 to 4.4. The cleanliness has been improved to ISO Code 15/13/9. Customer was pleased to see stable working pressure in operation. Also oil was free of particles and varnish which greatly increased machine reliability and the life of key components.

Date	2016.12.07	2016.12.15
MPC Value	31.5	4.4
$\geq 4\mu\text{m}$	6175925	19525
$\geq 6\mu\text{m}$	1552100	4700
$\geq 14\mu\text{m}$	1150	450
ISO 4406	23/21/11	15/13/9
Acid Number	0.18	0.12

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CUSTOMER

FREP is a large-scale petrochemical enterprise jointly invested by FPCL(China),Exxonmobil China and Saudi Aramco Asia.



Units Basic Info

- Units: Elloit compressor
- Oil Type: Greatwall TSA #32
- Reservoir: 20000L
- Oil years: 3 years

PROBLEM

Aiming at building and operating a world-class, high-tech integrated petrochemical facilities, client pays close attention to equipment breakdown caused by lubricant failure. They wanted to build up proactive maintenance program to improve machine's reliabilities. Oil analysis showed in-service oil was high contaminated with particles(ISO CODE 20/18/13) and varnish formation would accelerate the friction of moving components, servo valve failures etc.

SOLUTION

In order to remove the particles and prevent varnish/sludge from deteriorating, Winsonda's varnish removal unit has been introduced and installed to the reservoir in Oct. 2017 for continuous filtration.

RESULT

After 20days filtration, the MPC value ΔE dropped from 16.5 to 10. The cleanliness has been improved to ISO Code 16/13/10. Another two months later, client informed a better MPC

8.2. Utilizing Winsonda's WVD-II to restore the oil system free of particle and varnish that extend the maintenance interval with large cost savings.



Date	2017.10.18	2017.11.24
MPC Value	16.5	10
$\geq 4\mu\text{m}$	535325	50350
$\geq 6\mu\text{m}$	134675	7325
$\geq 14\mu\text{m}$	5100	675
ISO 4406	20/18/13	16/13/10
Acid Number	0.09	0.07

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